

Energy and Environmental Reporting

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Energy and environmental reporting

The requirement

The Victorian Government is committed to pursuing a comprehensive strategy to reduce greenhouse gas emissions within Victoria. The following targets for reducing Greenhouse gas emissions in government operations have been established:

- Government buildings, including hospitals, are required to reduce energy consumption 15% by the financial year 2005/06.
- Departments and statutory authorities are required to purchase 10% of their electricity as Greenpower (hospitals are exempt from this requirement but encouraged to participate).

Government Departments are to report annually on energy usage and cost, including that used by funded agencies. The energy consumption reporting requirements are:

- energy consumption and cost of each type of fuel used
- floor area - to determine energy use per square metre
- energy end use by facility types (e.g. health facility, office, custodial facility, emergency services etc)

Because of the significance of hospital energy use, where over \$50 million is spent annually by the Victorian public health sector on energy, information is being collected by AIMS. Note that any savings achieved by reducing energy costs are to be retained by the hospitals themselves.

Information provided in these forms of your agency's sites energy use will be used for inclusion in the Departmental annual report to Cabinet.

To enable your agency to manage its energy consumption it will need to monitor and track the energy bills for individual sites and accounts on a monthly basis. Most agencies already undertake this as part of good management and for bill verification. A standard Energy Data Management (EDaM) spreadsheet for monitoring and tracking energy accounts by agencies has been developed with input from hospital engineers, and this will facilitate on site energy management and reporting to AIMS. The energy cost fields in AIMS are also consistent with the chart of accounts.

A survey conducted in August 2003 that collected historic energy consumption data and confirmed agency site details has been used to:

- establish an energy consumption baseline, that will be for 1999/2000, against which energy reductions will be measured
- identify factors that should be considered at individual sites for setting energy reduction targets
- enable annual reporting to Cabinet for the financial year (2002/2003)
- pre-populate the AIMS Site Information and Energy Consumption forms

The Department has supported the Government's energy reduction initiatives by establishing a small sustainability unit, preparing the DHS Environment Policy and identifying strategies to meet government energy reduction targets. Other initiatives being pursued include conducting energy

seminars and training, developing energy data management tools, undertaking audits, evaluation of opportunities to implement energy saving projects, the establishment of an Energy Improvement Fund and identifying suitable facilities for demonstration project trials. These initiatives focus on benefits that can be achieved within hospitals.

Contact for further information

For further information regarding the AIMS data entry contact the AIMS Help Desk on 9616 8595 or for energy related information contact Sarah Bending, Environment Officer, on 9616 2049 (sarah.bending@dhs.vic.gov.au).

Energy data collection

Government Departments are to report annually on energy usage and cost, including that used by funded agencies. The energy consumption reporting requirements are:

- Energy consumption and cost of each type of fuel used, including
 - Electricity
 - Natural Gas
 - Cogeneration (steam)
 - LPG
 - Briquette
 - Diesel
 - Other fuel
 - Greenpower

Water consumption has also been included

- Water
- Recycled Water
- Floor area—to determine energy use per square metre
- Energy end use by facility types, including
Ambulance Work Shops, Cemetery, Community Care Unit, Community Drug Withdrawal Unit, Community Health Centre, Community Mental Health Centre, Day Centre, Dental Clinic, Integrated Care Centre, Mental Health Unit, Metro Aged Care, Metro Ambulance Office, Metro Ambulance Station, Metro Hospital, Psychiatric Hospital, Psychiatric Residence, Psychogeriatric Nursing Home, Rural Aged Care, Rural Ambulance Station, Rural Hospital, Sexually Transmitted Disease Centre, Staff Residence, Other.

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Two on-line forms are used to collect the energy data

1. Energy Consumption, and
2. Site Information

The report of energy consumption is an aggregate report for each agency. Energy consumption, by fuel type, for all sites in the agency portfolio is to be reported as a single entity. All sites in the agency portfolio, for which energy consumption is reported as an aggregate, are to be scheduled in the Site Information form.

Return of forms

Energy Consumption and Site Information reports are monthly but may be submitted at quarterly intervals. Forms must be completed sequentially by month.

Data used confidentially

The data shall be used to compile a single annual report to Cabinet of the Departments energy consumption, with reference to the government's energy reduction targets. The report to Cabinet shall also include advice of measures agencies and the Department have implemented toward achieving the energy reduction targets.

Because effective energy management requires monthly reporting at the point where energy is managed (i.e. at the agencies), monthly reports are to be submitted through AIMS. However, for mandatory reporting to Cabinet, an aggregate report of annual data shall be compiled.

Agencies are not required to identify energy consumption from individual sites in this data collection. In reporting to Cabinet, the Department shall further aggregate data provided by agencies into the following end-use categories

- Health Care Facilities (e.g. hospitals, aged care and community health centres)
- Emergency Services (e.g. ambulance stations)
- Custodial Facilities (e.g. juvenile justice)
- Offices

The energy or water consumption of individual agencies and sites will NOT be identified in reports to Cabinet.

Benefits to the agency

Energy and water consumption are significant costs, which are manageable. Last year hospitals spent an estimated \$60M on energy and water, and the cost of these commodities is increasing. Energy savings in excess of 15% have been achieved in Australian hospitals and overseas.

The Department is currently establishing environmental management programs and resources for the Departments and its agencies. This includes preparing a DHS Environment Policy and identifying strategies to meet government energy reduction targets. Other initiatives being

pursued include conducting energy seminars and training, developing energy data management tools, undertaking audits, evaluation of opportunities to implement energy saving projects and identifying suitable facilities for demonstration project trials. These initiatives focus on benefits that can be achieved within hospitals.

How to fill out the energy consumption and site information forms

Energy consumption form

The forms are for reporting consumption and cost of the following utilities during the period of each calendar month. Monthly report forms may be submitted at quarterly intervals.

- Electricity
- Natural Gas
- Cogeneration (steam)
- LPG
- Briquette
- Diesel
- Other fuel
- Greenpower

Water consumption has also been included

- Water
- Recycled Water

The reports are for stationary energy use only. Transport fuels (used by vehicles) such as petrol are not to be included.

The following steps will be required by agencies to compile the reports.

1. Compile a list of sites comprising the agency property portfolio.
2. Identify all energy and water accounts for the agency property portfolio.
3. Obtain billing data for all energy and water accounts for the monthly report period.

Billing data may be obtained directly from the bills, or may be requested from the energy retailer in electronic format. The engineering department are most likely to have comprehensive energy and water billing information.

4. When bills span more than one calendar month, consumption and cost should be divided by the number of days of the billing period and then multiplied by the number of days of the reporting period (that is, the calendar month).

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5. For each individual fuel, add up the consumption and cost for all sites in the agencies portfolio calculated for the reporting period.
6. In AIMS, select Energy and Environment Reporting > select Site List> select Agency and Period. Check total floor area is correct. Alter site information as required then select Enter Energy Consumption Information and enter the monthly data. (See instructions for data entry.)

Most agencies will already be monitoring and tracking energy and water bills as part of good management and for bill verification, and much of the above work will already have been done. A standard Energy Data Management (EDaM) spreadsheet for monitoring and tracking energy accounts by agencies has been developed with input from hospital engineers, and this will facilitate on-site energy management and reporting to AIMS. EDaM automatically calculates monthly consumption and cost for individual sites from energy bills and aggregates this across the portfolio for reporting to AIMS.

Energy consumption fields

The following advice is provided for individual fields on the Energy Consumption form.

Agency floor area

Aggregate gross floor area in square meters for entire agency property portfolio calculated automatically from the Site Information form.

Electricity data—peak

Aggregate peak electricity consumption, in kilowatt-hours, for entire agency property portfolio during calendar month reporting period. Peak electricity consumption is between 7am to 11pm Mon – Fri. (Include any electricity consumption from cogeneration plant on site.) Value range for electricity consumption is 0–10,000,000.

Electricity data—off peak

Aggregate off peak electricity consumption, in kilowatt-hours, for entire agency property portfolio during calendar month reporting period. Off peak electricity consumption is between 11pm to 7am Mon – Fri and all Sat and Sun. (Include any electricity consumption from cogeneration plant on site.) Value range for electricity consumption (kWh) is 0–10,000,000.

Electricity data—cost

Aggregate total (peak & off peak) electricity cost for entire agency property portfolio during calendar month reporting period. (Include any electricity cost from cogeneration plant on site.) Cost excludes GST. Value range for cost is \$1,000–\$1,000,000.

Natural gas data

Aggregate total natural gas consumption, in megajoules, for entire agency property portfolio during calendar month reporting period. (Do NOT include gas consumption of cogeneration plant, if installed.) Value range for natural gas consumption (MJ) is 0–100,000,000.

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Natural gas data—cost

Aggregate total natural gas cost for entire agency property portfolio during calendar month reporting period. (Do NOT include gas cost of cogeneration plant, if installed.) Cost excludes GST.

Cogeneration steam data—peak

Aggregate peak steam consumption of hospital, in tonnes, from any cogeneration plant within agency property portfolio during calendar month reporting period. Peak steam consumption is between 7am to 11pm Mon–Fri. (Do NOT include steam generated from other than cogeneration plant. Energy consumption for steam generated from other than cogeneration will be included in natural gas or other fuel consumption). Value range of steam consumption (Tonnes) is 0–10,000.

Cogeneration steam data—off peak

Aggregate off peak steam consumption of hospital, in tonnes, from any cogeneration plant within agency property portfolio during calendar month reporting period. Peak steam consumption is between 11pm to 7am Mon – Fri and all Sat and Sun. (Do NOT include steam generated from other than cogeneration plant. Energy consumption for steam generated from other than cogeneration will be included in natural gas or other fuel consumption). Value range of steam consumption (Tonnes) is 0–10,000.

Cogeneration steam data—cost

Aggregate steam cost to hospital from any cogeneration plant within agency property portfolio during calendar month reporting period. (Do NOT include steam generated from other than cogeneration plant. Energy cost for steam generated from other than cogeneration will be included in natural gas or other fuel costs.) Cost excludes GST. Value range of steam consumption cost is 0–\$1,000,000.

LPG data

Aggregate total LPG consumption, in litres, for entire agency property portfolio during calendar month reporting period. (Do NOT include LPG consumption of vehicles.) Value range of LPG consumption (L) is 0–1,000,000

LPG data—cost

Aggregate total LPG cost for entire agency property portfolio during calendar month reporting period. Include the cost of service and delivery charges and plant rental. (Do NOT include LPG cost of vehicles.) Cost excludes GST. Value range of cost is 0–\$100,000.

Briquette data

Aggregate total briquette consumption, in tonnes, for entire agency property portfolio during calendar month reporting period. Value range of briquette consumption (Tonnes) is 0–10,000.

Briquette data—cost

Aggregate total briquette cost for entire agency property portfolio during calendar month reporting period. Include the cost of service & delivery charges and plant rental. Cost excludes GST. Value range of cost is 0–\$100,000.

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Diesel data

Aggregate total stationary diesel consumption, in litres, for entire agency property portfolio during calendar month reporting period. (Do NOT include diesel consumption of vehicles.) Value range of diesel consumption (L) is 0–1,000,000.

Diesel data—cost

Aggregate total stationary diesel cost for entire agency property portfolio during calendar month reporting period. Include the cost of service & delivery charges and plant rental. (Do NOT include diesel cost of vehicles). Cost excludes GST. Value range of cost is 0–\$100,000.

Other fuel data

Aggregate any other fuel consumption, in megajoules, for entire agency property portfolio during calendar month reporting period, which has not otherwise been reported.

Other fuel data—cost

Aggregate any other fuel cost for entire agency property portfolio during calendar month reporting period, which has not otherwise been reported. Cost excludes GST.

Water data

Aggregate total water consumption, in kilolitres, for entire agency property portfolio during calendar month reporting period. Do NOT include recycled water consumption, such as rainwater collected on site. Value range of water consumption (kL) is 0–100,000,000.

Water data—cost

Aggregate total water, sewage and tradewaste cost for entire agency property portfolio during calendar month reporting period. Cost excludes GST. Value range of cost is 0–\$100,000.

Recycled water data

Aggregate recycled water consumption, in kilolitres, for entire agency property portfolio during calendar month reporting period. Include recycled water consumption, such as rainwater collected on site or grey water use, that displaces mains water use. Value range of recycled water consumption (kL) is 0–100,000.

Greenpower data—peak

Aggregate peak greenpower consumption, in kilowatt-hours, for entire agency property portfolio during calendar month reporting period. Peak greenpower consumption is between 7am to 11pm Mon – Fri. (Include any greenpower consumption from cogeneration plant on site.) Value range for greenpower consumption is 0–10,000,000.

Greenpower data—off peak

Aggregate off peak greenpower consumption, in kilowatt-hours, for entire agency property portfolio during calendar month reporting period. Off peak greenpower consumption is between 11pm to 7am Mon – Fri and all Sat and Sun. (Include any greenpower consumption from cogeneration plant on site.) Value range for electricity consumption (kWh) is 0–10,000,000.

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Greenpower data—cost

Aggregate total (peak & off peak) electricity cost for entire agency property portfolio during calendar month reporting period. (Include any greenpower cost from cogeneration plant on site.) Cost excludes GST. Value range for cost is \$1,000–\$1,000,000.

Comments

A memo field is available for hospitals to provide additional comments relevant to the submission of energy consumption data.

Site information form

The main purposes of the Site Information form are to:

- Identifying all sites within the agencies portfolio for which energy consumption is reported.
- Determine the aggregate floor area of the sites.
- Identify the types of facilities.

Monthly report forms may be submitted at quarterly intervals. The forms will be pre-populated with the previous months Site Information. However, it is important to note any changes in detail, especially floor area, because government energy reduction targets are with reference to energy use per square meter floor area.

The following steps will be required by agencies to compile the reports.

1. Compile a list of sites comprising the agency property portfolio and addresses.
2. Determine the gross floor area of the facilities.
3. Identify the primary function (type) of the facility.
4. In AIMS, select Energy and Environment Reporting > select Energy Site List > select Agency and Period > click a site name to view/edit details for that site or select Add Site. (See instructions for data entry.)

Site data fields

The following advice is provided for individual fields on the Site Information forms.

Site name

Commonly known name of the site. The site may include a number of separate buildings. Conversely, a number of separate sites may exist on the same property boundary.

Site address

Actual location and street address.

Site city

Town or suburb site is located.

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Site post code

Post code of site.

Site floor area

Gross floor area, as defined by the Australian Institute of Quantity Surveyors Australian Cost Management Manual, in square meters, of all buildings included within Site Name. Value range of floor area in square meters is 50–250,000.

Site facility type

Primary use of the site. Select a facility type from the drop down list:

Ambulance Work Shops, Cemetery, Community Care Unit, Community Drug Withdrawal Unit, Community Health Centre, Community Mental Health Centre, Day Centre, Dental Clinic, Integrated Care Centre, Mental Health Unit, Metro Aged Care, Metro Ambulance Office, Metro Ambulance Station, Metro Hospital, Psychiatric Hospital, Psychiatric Residence, Psychogeriatric Nursing Home, Rural Aged Care, Rural Ambulance Station, Rural Hospital, Sexually Transmitted Disease Centre, Staff Residence, Other.

Data entry instructions

System changes for 2004-2005

The following improvements have been made to the data entry application.

- Re-arrangement of forms to update site information before energy consumption details.
- A tabular form to list all agency site information.
- A site list report.
- Addition of greenpower consumption (peak and off-peak) and greenpower cost.
- Addition of comments field.
- Improved online instructions (user help text) to advise system function currently being performed.
- Introduction of warning messages if ratio of cost/consumption ration is outside the expected range.
- An online Compliance report that shows the status of agency reporting during the financial year is still in development. This report should be released soon after the data entry application.

Standard buttons on data entry screens

SAVE

The SAVE button allows the user to save the data as displayed on the screen, and keep the form open. This enables the user to save data mid way through data entry.

SUBMIT

The Submit button saves data onto the database and closes the form.

VALIDATE

Validation edits are built into the data entry forms to improve data quality. For some forms, a special validation button is used to activate the validation rules on a form. When available, this button should be selected to test validation edits before ticking the Completed button.

All validation errors must be corrected before a form can be saved. Click on the validation error to locate the affected field and correct.

COMPLETED

The Completed check box indicates to the department whether the form is complete or incomplete.

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A tick in the Completed box indicates the form is complete with all validation rules satisfied and approval for release of data is obtained from the chief executive officer or delegated authorising officer.

PRINT

Prints a copy of the active form.

1. Press the **Print** button.
2. This will take you to a Print Preview screen. Press the **Printer** icon.
3. Press **Back** button to return to Form.

Note 1: Ensure data is saved before printing to prevent data loss.

Note 2: The Toolbar print option does not provide a suitable format.

To access the energy and environmental reporting forms

1. Select **On-Line Entry** from the Victorian Hospital Information Services home page.
2. A prompt may sometimes appear requesting the user to enter their UserID and password to logon. Enter logon details if this message appears. If you have misplaced your logon details, please contact the AIMS Help desk on 9616 8595 for assistance.
3. Click on **On-Line Data Entry Public 2005**
4. Click on **Energy and Environmental Reporting**
5. Click on **Energy Site List**
6. Select **Agency** and **Period** from drop down lists
7. Click on **Get Form**

Energy Consumption Site List/Site Information Form

The Energy Consumption Site List is the first screen to open. It will display the agency name, period, year, total agency floor area, site names, site addresses, site facility type, site floor area, Print (Site List) Report button, Add Site button and Enter Energy Consumption Information button.

The user should first check the site information listed and the aggregate total floor area for the entire agency property portfolio. If the site information is correct, click on the button to open the Energy Consumption Information form, otherwise update agency site information following the instructions below.

To add a new site:

1. Click on button Add Site.

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2. A blank Site Information form will appear. Click in the first cell and start entering site details. Enter site name, site address1, site address2 (optional), site city, site postcode, site floor area and site facility type (select from the drop down list). Use TAB key to move to the next cell.
3. Press SAVE button.
4. Press CLOSE button to close form and return to Energy Consumption Site List.
5. Confirm close by clicking OK.

To edit/modify information for an existing site:

1. Click on Site Name to edit details for a specific site.
2. Click in the data item to be altered and make the change.
3. Repeat step 2 until all data items are correct.
4. Press the SAVE button.
5. Press the CLOSE button to return to the Energy Consumption Site List.
6. Confirm close by clicking OK.

To delete a site:

1. Click on Site Name to edit details for a specific site.
2. Confirm the correct site details appear on the Site Information form as the delete action cannot be undone.
3. Press DELETE SITE button.
4. Press OK to confirm Delete action.
Note: When a site record is deleted, the screen will move to the previous site. If the first site record is deleted, the screen remains on site 1 and will show a blank record. The blank record will disappear when the user moves to another site.
5. Press CLOSE button to return to the Energy Consumption Site List.
6. Confirm close by clicking OK.

To print agency site list information:

1. Press PRINT REPORT button at bottom of page to print agency site list.
2. The Print options screen will appear.
3. Select your printer and amend any other print parameters required on your local system, and press OK.

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To close the Site Information form:

1. Press CLOSE button.
2. Press OK. This will return user to the Energy Consumption Site List.

Energy consumption form

After checking the site information is correct, update the energy consumption information.

To enter data into the Energy Consumption form:

1. Click on the button 'Enter Energy Consumption Information' on the Energy Consumption Site List page.
2. Click in the first data item and enter the data.
3. Use the TAB key to move to the next data entry cell and enter the next value.
4. Continue until all data items are entered. At end form, a memo box is available to provide comments to the department related to energy consumption information.

If a value entered is outside the expected value range, an information window will appear. Press OK, and re-enter the data.

In addition, a warning message will appear when the fuel consumption and total cost is outside the expected cost/consumption ratio. This message is a warning only. Users are requested to re-check both the consumption and cost values submitted and, if necessary, correct.

Press SAVE button to save data to the database and remain on the form. Data must be saved before printing to prevent data loss.

Press PRINT button to print a copy of the return. Note: Ensure data is saved before printing to prevent data loss.

5. When all the data has been checked and verified as correct, tick the Completed check box.
A tick in the Completed box indicates the form is complete with all validation rules satisfied and appropriate approvals for release obtained. The non-ticked Completed button will indicate to the department that the return is incomplete. Users interrupted mid way through completion of a return or who require data verification, should select the Save or Submit button to save data already completed and exit the return.
6. Press the SUBMIT button to save and exit the form. The user will return to the Energy Consumption Site List page.

DO NOT use the Back Arrow from the browser toolbar to exit a form unless you do not wish to save the changes. Use of the Back Arrow will lose all data entered.

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Correction of forms

Where an error is detected for any data item previously submitted to the department, then a correction must be submitted.

Note: If an adjustment is identified for backdated site information, then select the relevant month and update site information as required. The user will then need to open the Energy Consumption form for the same month and press SAVE button. If the site information change is also needed in subsequent months, for example if an incorrect floor area has been used for several months, the site information form and energy consumption form for each month will need to be opened and SAVED. The function to bring forward the previous month's site information to the energy consumption form is specific to the first time a new period is opened and is not intended to be a sophisticated site management system.